

<p>U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Assistant Secretary for Housing-Federal Housing Commissioner</p> <p>TO: DIRECTORS, HOUSING DIVISION DIRECTORS, MULTIFAMILY DIVISION DIRECTORS, SINGLE FAMILY DIVISION</p>	<p>Series and Series Number: (Supersedes issue dated March 17, 1995) MATERIALS RELEASE NO. 1120d</p> <hr/> <p>ISSUE DATE: September 24, 1998</p> <hr/> <p>REVIEW DATE: September 24, 2001</p>
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SUBJECT: 1. Product Hi-Tuff Hypalon® and Hi-Tuff EP® Single-Ply
 Membrane Roofing Systems

**2. Name and Address
 of Manufacturer** Stevens Roofing Systems
 (a division of J.P.S.
 Elastomerics Corporation)
 9 Sullivan Road
 Holyoke, MA 01040-2800

Data on the nonstandard product, described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement, or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE: Single-ply membrane roofing systems.

DESCRIPTION:

The roofing system shall consist of a prepared substrate, insulation, when required, and Hi-Tuff Hypalon® or Hi-Tuff EP® single-ply membrane. The single-ply membranes may either be attached by mechanical fastening, or be loose-laid and ballasted. However, some local codes may preclude the use of ballast.

Hi-Tuff Hypalon® membrane sheets are 45 mil, polyester scrim reinforced, uncured Hypalon® (Chlorosulfonated Polyethylene). All membrane seams shall be hot air welded.

Hi-Tuff EP® membrane sheets are 45 or 60 mil, polyester scrim reinforced, ethylene propylene copolymer. All membrane seams shall be hot air welded.

Membrane material is used for flashing. Perimeter gravel stops and drip edges shall be Hi-Tuff Hypalon® Metal for Hi-Tuff Hypalon® roofing systems, and Hi-Tuff EP Metal for Hi-Tuff EP® roofing systems. Field fabricated vent stack flashing and inside/outside corners shall be 55 mil nonreinforced Hi-Tuff Hypalon®, or Hi-Tuff EP®.

In addition to the membrane and flashing, the following materials are provided by J.P.S. Elastomerics Corporation.

1. Hi-Tuff Hypalon® Bonding Adhesive - for adhering Hi-Tuff Hypalon® flashing only.
2. Hi-Tuff EP® Bonding Adhesive - for adhering Hi-Tuff EP® flashing only.
3. Hi-Tuff Hypalon® Primer/Seam Caulk - for welding cured membrane seams.
4. Hi-Tuff EP® Seam Wash - for cleaning aged or dirty Hi-Tuff EP® prior to welding.
5. Hi-Tuff® All Purpose Sealant - for a water cut-off mastic, pitch box sealer, and as a caulk to seal adhered Hi-Tuff Hypalon® and Hi-Tuff EP® membrane to metal.

Other sealants and caulks are available for specific uses. Consult J.P.S. Elastomerics Corporation, Stevens Roofing Systems Division for more information.

Miscellaneous materials required for the system are:

1. Insulation or Protection Board: Shall be approved in writing by J.P.S. Elastomerics Corporation. All insulation shall be approved by its manufacturer for mechanical attachment to metal, wood and concrete decks.
2. Mechanical Fasteners: Plates are 2" in diameter, 22 gauge galvanized steel. Screws are 1 5/8" to 12" in length.
3. Ballast: Smooth, 3/4" (minimum), river washed gravel or paver blocks. Minimum ballast shall be 1000 lbs. per square.

REQUIREMENTS:

The roofing membrane shall comply with the requirements in Table 1.

TABLE 1. REQUIREMENTS		
<u>CHARACTERISTICS</u>	<u>VALUES</u>	<u>TEST METHOD</u>
Breaking Strength, lbf, min.	250	ASTM D751
Elongation, %, min.	18	ASTM D751
Durometer Hardness, Shore A, min	80	ASTM D2240
Low Temperature Bend, -40°F	pass	ASTM D2136

WIND AND FIRE CLASSIFICATION:

The roofing system shall resist the wind uplift forces specified in American Society of Civil Engineers (ASCE) 7-88. Fire Classification shall meet HUD Minimum Property Standards (MPS), and be in accordance with Underwriters Laboratories (UL) and Factory Mutual (FM) construction.

INSPECTION:

A designated representative of Stevens Roofing Systems (a Division of J.P.S. Elastomerics Corporation) shall make inspection of the Stevens Roofing System installation to give final approval prior to issuance of the requested Stevens Roofing Systems material and workmanship (type) warranty.

DELIVERY AND STORAGE:

Materials damaged in shipping or storage shall not be used. All materials provided by J.P.S. Elastomerics Corporation shall be delivered in containers with labels indicating appropriate warnings, storage conditions, lot numbers, and usage instructions. Broken containers shall not be accepted.

INSTALLATION:

1. Substrate:

The applicator shall examine the substrate scheduled to receive the membrane for defects such as excessive surface roughness, contaminated surfaces, structurally unsound substrates, or other defects that will adversely affect the attachment of the roofing system. Application of the roofing system shall not commence until all substrate defects are remedied.

Installation of insulation, plywood or fiberboard, if required, shall be in accordance with J.P.S. Elastomerics Corporation instructions and insulation manufacturer's instructions.

2. Membrane:

Hi-Tuff Hypalon® and Hi-Tuff EP® roofing system installation and field quality control shall be in accordance with current written J.P.S. Elastomerics Corporation specifications and architectural details. Substrate preparation, placement of insulation and membrane, hot air welding of joints, seams and laps (using J.P.S. Elastomerics Corporation approved equipment), membrane attachment, construction closures, walkways, and any other work required to make a completely watertight roof membrane, shall comply with J.P.S. Elastomerics Corporation specifications.

3. Adhesives:

Adhesives may be extremely flammable or toxic. Use precaution as indicated on container labels.

Surfaces to be bonded shall be dry and clean.

4. Hot Air Welding Of Exposed and Cured Hi-Tuff Hypalon® Membrane:

Hi-Tuff Hypalon® membrane is manufactured as an uncured Hypalon® sheet which will cure upon exposure to sunlight and moisture. If the sheets become cured, hot air welding will be impossible without first applying Hi-Tuff Hypalon® primer to the cured surface. Surface curing will vary greatly with weather conditions. Hot moist weather may start the curing process in 24 hours. A sample test weld will indicate the need for a primer.

All fasteners shall be installed with a depth-sensing screw gun to prevent overdriving.

WARRANTY:

Stevens Roofing Systems (a Division of J.P.S. Elastomerics Corporation) ("Stevens") is prepared, upon completion of the Stevens Roofing System to the satisfaction of Stevens by a Stevens Authorized Applicator ("applicator") in conformance with Stevens published specifications and the Authorized Applicator Agreement, to issue to the project owner a standard 10 year material and workmanship (type) warranty which, at a minimum, warrants:

- The watertight condition of its Hi-Tuff Hypalon® and Hi-Tuff EP® Roofing Systems for a period of ten (10) years. The warranty becomes null and void if there is a significant change in the use of the building, or if equipment is added to the roof without first obtaining authorization from Stevens.
- This warranty only covers defects in watertightness of the Roofing System. This warranty does not cover: (1) other components of the building; (2) any metal or metal work on the roof, except Stevens metal or metal work; (3) Acts of God, including without limitation lightning, earthquake or similar natural occurrences; (4) winds that exceed ASCE 7-88; (5) any condition caused by any deliberate act, or negligence; or (6) any condition caused by repair or subsequent work on or through the roof without Stevens prior written approval.
- Stevens sole liability for any breach of this warranty shall be limited to replacing defective elements of the system, subject to the owner's compliance with the following provisions. Should any leakage be discovered during the term of this warranty, the owner shall give written notice thereof to Stevens within 10 days from such discovery. During the term of this warranty, Stevens shall have free access to the roof during business hours.

The applicator/contractor/project owner is required to obtain from Stevens Roofing System, a division of J.P.S. Elastomerics Corporation a standard 10 year material and workmanship warranty for its Hi-Tuff Hypalon® and Hi-Tuff

EP® roofing systems. The actual warranty document itself, depending upon the variation requested by the applicator/contractor/project owner, contains other limiting and/or clarifying language which does not eliminate, reduce or negate any of the foregoing warranty provisions and requirements.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this Materials Release (MR) commits the manufacturer to fulfill, as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
3. When requested, provide the Office of Consumer and Regulatory Affairs, Manufactured Housing and Standards Division, HUD Headquarters, with a representative list of properties in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
4. Inform HUD in advance of changes in production facilities, methods, design of the product, company name, ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to HUD Headquarters. Appropriate User Fee shall be sent to:

U.S. Department of Housing and Urban Development
Technical Suitability of Products Fees
P.O. Box 954199
St. Louis, MO 63195-4199

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to the MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the MR. HUD will notify the manufacturer that the MR may be canceled when:

1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system,
2. the manufacturer has changed its organizational form without notifying HUD, or
3. the manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

This Materials Release is issued solely for the captioned firm, and is not transferable to any person or successor entity.
